

July 9, 2002

Water Security Strategy for Systems Serving Populations Less than 100,000/15 MGD or Less

I. Introduction

A. Background

From its inception, the overall vision of the US Environmental Protection Agency (USEPA) Water Protection Task Force has been to help the greatest number of drinking water and wastewater systems to be more secure as soon as possible. USEPA is working through cooperative and collaborative efforts with states, tribes, local government, stakeholder organizations, and drinking water systems and wastewater utilities to achieve this goal. Through these efforts, USEPA is striving to assist all drinking water systems and wastewater utilities.

In Fiscal Year (FY) 2002, a major focus of the work has been on supporting very large drinking water systems (serving a 100,000 or more people) and wastewater utilities (treating more than 15 million gallons of wastewater per day (MGD)). The water security strategy presented in this document focuses on the work needed to increase the level of security preparedness of drinking water systems that serve populations less than 100,000 and wastewater utilities that treat 15 MGD or less. This strategy also includes tribal drinking water systems and wastewater utilities.

B. Scope and Purpose

In formulating this water security strategy for systems serving populations less than 100,000 and 15 MGD or less, USEPA is focusing on establishing general goals, objectives and tasks that would increase security for drinking water systems and wastewater utilities while also meeting specific statutory requirements (see following discussion). In addition, USEPA is interested in a flexible implementation strategy that takes into account local and regional circumstances and builds upon other security initiatives or requirements (e.g., activities supported by other federal agencies such as US Health and Human Services counter-terrorist preparedness) while at the same time establishing clear and measurable accomplishments. With these objectives in mind, this strategy looks to states to facilitate and coordinate many of the key implementation tasks. It is envisioned that states will utilize partnerships with a variety of stakeholder organizations to best achieve higher levels of security for the drinking water systems and wastewater utilities they regulate.

In January 2002, the President signed the FY 02 Supplemental Defense Appropriations Bill containing \$89 million for USEPA to use for a number of security related needs including drinking water system and wastewater utility vulnerability assessments and emergency response plans. Out of these funds, USEPA provided approximately \$53 million for vulnerability assessments, emergency response plans, and security planning at drinking water systems serving 100,000 people or more. USEPA will also use approximately \$23 million of the FY 02 funds for security at drinking water systems serving less than 100,000 people; and \$3 million of the FY 02 funds for security at wastewater utilities treating 15 MGD of wastewater per day or less.

C. New Legislation

In June 2002 the President signed PL 107-188, the Public Health, Security, and Bioterrorism Preparedness and Response Act (“Bioterrorism Act”) that includes provisions to help safeguard the nation’s public drinking water systems against terrorist and other intentional acts. Key provisions of the new security-related amendments are summarized below:

2. Requires community water systems serving populations greater than 3,300 to conduct vulnerability assessments and submit them to USEPA;
3. Requires specific elements to be included in a vulnerability assessment;
4. Requires each system that completes a vulnerability assessment to revise an emergency response plan and coordinate (to the extent possible) with local emergency planning committees;
5. Identifies specific completion dates for both vulnerability assessments and emergency response plans;
6. USEPA is to develop security protocols as may be necessary to protect the copies of vulnerability assessments in its possession;
7. USEPA is to provide guidance to community water systems serving populations of 3,300 or less on how to conduct vulnerability assessments, prepare emergency response plans, and address threats;
8. USEPA is to provide baseline information to community water systems regarding types of probable terrorist or other intentional threats;
9. USEPA is to review current and future methods to prevent, detect and respond to the intentional introduction of chemical, biological or radiological contaminants into community water systems and their respective source waters;
10. USEPA is to review methods and means by which terrorists or other individuals or groups could disrupt the supply of safe drinking water; and
11. Authorizes funds to support these activities.

As of this writing, Congress has not mandated similar requirements for wastewater utilities. In the event that Congress does take such action, this strategy will be revised to include those requirements.

D. Size Categorization and Deadlines

For the purpose of this strategy, drinking water systems and wastewater utilities are classified according to size. This approach has been taken to better address the needs and circumstances of drinking water systems and wastewater utilities, particularly for the smaller size groups.

Drinking Water Systems

The strategy covers all public drinking water systems (i.e., community water systems (CWS), nontransient noncommunity water systems (NTNCWS), and transient noncommunity water systems (TNCWS)) serving fewer than 100,000 people.

Wastewater Utilities

The strategy covers all wastewater utilities with treatment capacities of 15 MGD or less.

Tables 1.1 and 1.2 below summarize the size categories for drinking water systems and wastewater utilities and also provide some statistical information on how many systems are expected to be eventually covered by this strategy.

Table 1.1 Public Drinking Water Systems Serving Populations less than 100,000

System Size (based on population served)	Number of Systems
CWS 25 – 3,300	45,503
CWS 3,301 – 49,999	7,473
CWS 50,000 – 99,999	457
NTNCWS 25 – 99,999	20,092
TNCWS 25 – 99,999	91,590

Table 1.2 Wastewater Utilities Treating 15 MGD or Less

System Size	Number of Systems
less than 1 MGD	approximately 13,000
1 MGD and up to 15 MGD	approximately 3,000

The Bioterrorism Act of 2002 also delineates community drinking water systems according to population served. The new legislation requires that vulnerability assessments be completed by certain dates according to size delineation. Additionally, once community drinking water systems complete a vulnerability assessment they are required, within six months, to develop or revise their

emergency response plans and incorporate the results of the vulnerability assessment. Table 1.3 shows the various size designations set forth in the new Bioterrorism Act and lists deadlines for the vulnerability assessments and emergency response plans. There are no similar legislative provisions for wastewater utilities.

Table 1.3 Vulnerability Assessment and Emergency Response Plan Completion Deadlines for Community Water Systems as Required by the Bioterrorism Act of 2002

System Size (based on population served)	Vulnerability Assessment Completion Deadline	Emergency Response Plan Completion Deadline
25 – 3,300	Not applicable	Not applicable
3,301 – 49,999	June 30, 2004	December 31, 2004
50,000 – 99,999	December 31, 2003	June 30, 2004

II. Strategic Approach to Drinking Water System and Wastewater Utility Security

USEPA has developed several strategic objectives to address drinking water system and wastewater utility security needs and also meet requirements set forth in the Bioterrorism Act for public drinking water security. These strategic objectives are as follows:

- Providing tools and guidance to drinking water systems and wastewater utilities
- Providing training and technical assistance including “Train-the-Trainer” programs
- Providing financial assistance to undertake vulnerability assessments and emergency response plans as funds are made available.
- Build and maintain reliable communication processes
- Build and maintain reliable information systems
- Improve knowledge of potential threats, methods to detect attacks, and effectiveness of security enhancements in the water sector
- Improve networking among groups involved in security-related matters – water, emergency response, laboratory, environmental, intelligence and law enforcement communities

The following sections provide short descriptions of each of the strategic objectives and the associated tasks. The first four objectives (A, B, C and D) are specific to drinking water systems serving populations of less than 100,000 people or treating 15 MGD or less of wastewater. The last three objectives (E, F and G) will benefit all sizes of drinking water systems and wastewater utilities, not only those serving populations of less than 100,000 people or treating 15 MGD of less of wastewater. The tasks in the last three objectives will be started in FY 02.

A. Tools and Guidance

USEPA will develop and provide various tools and guidance to assist drinking water systems and wastewater utilities to carry out vulnerability assessments, implement security improvements, and effectively respond to terrorist events. Except as otherwise noted, these activities will start in FY 02. Development will be the responsibility of USEPA in cooperation with states, tribes, utility organizations, drinking water systems, wastewater utilities, and others as appropriate. Specific tasks follow:

- Develop guidance and tools on how to conduct vulnerability assessments, prepare emergency response plans, and address threats from terrorists or other intentional acts. Begin development of initial tools for drinking water systems that serve more than 3,300 people and all wastewater utilities in FY 02. Complete guidance for drinking water systems serving less than 3,300 persons in FY 03 (as required under the Bioterrorism Act of 2002).
- Provide baseline information on potential terrorist threats to community drinking water systems (as required under the Bioterrorism Act of 2002).

B. Training and Technical Assistance

USEPA will complement the various tools developed by supporting training and technical assistance to help states, tribes, drinking water systems and wastewater utilities, and training organizations effectively use the tools and implement security improvements. USEPA will also work to build effective water security practices into the ongoing USEPA, state, and tribal water programs. These activities will be started in FY 02 and the specific tasks follow:

- Provide training and technical assistance for drinking water systems and wastewater utilities to carry out vulnerability assessments, emergency response plans and related security issues. For the majority of the training and technical assistance on vulnerability assessments and emergency response plans, USEPA will work through the states. Using grant agreements, USEPA will encourage states to take advantage of existing tools and training such as “Train-the-Trainer” programs developed as part of this strategy.
- Provide financial support for non-governmental organizations’ “Train-the-Trainer” programs to build staff expertise in water security issues that provide training and technical assistance to drinking water systems and wastewater utilities. (This resource pool of trained trainers/professionals will then be available to help states deliver training and technical assistance to drinking water systems and wastewater utilities).

- Amend highest priority, existing training programs and management systems to incorporate security components. USEPA will work with states, tribes, drinking water systems and wastewater utilities to build effective water security components into ongoing drinking water system and wastewater utility operations as well as within USEPA (national and regional), state, and tribal review systems (e.g., sanitary survey, capacity development, drinking water system and wastewater utility operator certification, source water assessments, wellhead protection, surface water treatment optimization for drinking water systems, wastewater utility pretreatment program, and environmental management systems).

C. Financial Assistance

The proposed funding allocation (see Attachment 1 of this strategy) reflects the use of approximately \$26 million (\$23 million for security at drinking water systems serving less than 100,000 people and \$3 million for security at wastewater utilities) made available from the FY 02 Supplemental Defense Appropriation. As funds authorized under the Bioterrorism Act of 2002 are appropriated, additional financial assistance will be provided to drinking water systems to conduct vulnerability assessments, develop emergency response plans and/or design and implement security enhancements. Prior to awarding funds, USEPA will work with partners to develop a process for determining priorities for the use of the funds and the order in which drinking water facilities will receive funding.

D. Reliable Communication Processes

USEPA will provide support to improve communication capabilities between states and drinking water systems (serving less than 100,000 people). For example, through support from USEPA, states may develop fax and e-mail lists to disseminate information to drinking water systems serving less than 100,000 people, or build other mechanisms to improve communications based on the needs of these systems.

E. Reliable Information Systems

USEPA will continue to provide financial assistance to the Association of Metropolitan Water Agencies to establish and maintain a secure Information Sharing and Analysis Center (ISAC) for the water utility sector to exchange water threats/incident information and analysis.

F. Improved Knowledge in the Water Security Sector

USEPA will work with other federal agencies, universities, and the private sector to: (a)

review methods to prevent, detect and respond to chemical, biological, radiological contaminants into community drinking water systems and wastewater utilities; (b) review methods and means by which terrorists could disrupt the supply of safe drinking water or take other actions against water collection, pretreatment, treatment, storage, and distribution facilities; and (c) review methods and means by which alternative supplies of drinking water could be provided in the event of a disruption.

USEPA will provide guidance on security hardware improvement (for example, locks, cameras, etc.); USEPA will work with utility representatives to design and then develop a security hardware evaluation guide that would help drinking water systems and wastewater utilities address their vulnerabilities and make informed decisions on the effectiveness, cost, operation and maintenance of security hardware improvements. USEPA will establish a technology verification program for water utility security improvements and evaluate different technologies. USEPA will also provide additional guidance and support exchange of information on technologies and methodologies as new information becomes available.

G. Improved Networking in the Water Security Sector

USEPA will foster coordination among federal, state, tribal, local emergency responders, health agencies, environmental labs, the medical community, and the law enforcement community at all levels (federal, state and local) concerning response to suspected and actual terrorist actions against drinking water systems and wastewater utilities. This will be achieved through training and support of simulations and emergency response exercises.

III. Measuring Progress and Success

USEPA, states, and stakeholder organizations will work together on establishing overall measures of success so that progress (i.e., improving security) can be readily identified. More detailed measures of success would be identified by states.

Attachment 1

Summary of Proposed Funding Allocation for Fiscal Year 2002 Supplemental Funds

<u>Activity</u>	<u>Funding Amount</u>
Tool development for drinking water systems.....	\$300,000
Technical assistance & training for drinking water systems.....	\$17,000,000
serving less than 100,000 people (administered through states) including:	
– Vulnerability self-assessment technical assistance (tool distribution & training)	
– Emergency response plan technical assistance (tool distribution & training)	
– Upgrading communications	
Drinking Water “Train-the-Trainer” programs.....	\$1,500,000
Incorporate security issues into programs.....	\$2,000,000
Tools, training and technical assistance for wastewater.....	\$3,000,000
utilities	
Portion of funds for activities that support all drinking water.....	\$2,200,000
systems and wastewater utilities (Information Sharing and Analysis Center, Improving Knowledge, Technology Development and Networking applied to this strategy)	

NOTE: These are broad estimates and may be subject to change. Additionally, a small portion of this funding may be used by USEPA to support these activities with tribes.